Consumer Confidence Report for year of 2012

Annual Drinking Water Quality Report

City of Newton

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The City of Newton proudly presents this year's Annual Water Quality Report. Details of this report highlight both the quality of water and service the City currently provides. If you have any questions regarding the content of this report or general questions regarding your water service, please contact Tim Abernethy at (828) 695-4312.

Where does Newton's water come from?

The Jacob Fork River is the primary water source of Newton's drinking water. The city's secondary source of water is the City Lake, a reservoir that holds approximately 40 million gallons. The Jacob Fork River flows approximately 20 miles over solid bedrock where it is well oxygenated and most volatile contaminants are removed. The Jacob Fork River has no commercial or city discharge facilities located along its 20 mile stretch adding to the purity of the water.

How is Newton's water treated for drinking purposes?

Source water from the Jacob Fork River is treated at the City of Newton Water Treatment Plant. During treatment, source water goes under a series of processes: coagulation, sedimentation, filtration, and disinfection.

- ***Coagulation*** – chemicals are mixed into the water to form a solid material around small particles in the raw water causing them to clump together.
- ***Sedimentation*** – particles settle to the bottom of a large settling tank and are removed.
- ***Filtration*** – water flows through carbon filters and sand to remove any remaining particles.
- ***Disinfection*** – chlorine is added to disinfect the water.

What you need to know about your H_20

Drinking water originates from many places (i.e. oceans, rivers, lakes, streams, ponds, reservoirs, springs, wells, etc.) sometimes traveling great distances before reaching its final destination. As a result, water collects a variety of substances or contaminants on its journey. Some of these contaminants are:

- ***Microbial contaminants*** such as viruses, bacteria and other pathogens, which may come from septic systems, agricultural livestock operations, and wildlife.
- ***Inorganic contaminants*** such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ***Pesticides and herbicides*** which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ***Radioactive contaminants*** which can occur naturally or be the result of oil and gas production and mining

activities.

- ***Organic chemical contaminants,*** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. They can come from gas stations, urban storm water runoff, and septic systems.

The following are definitions of quantities of substances found in your water:

- ***Nephelometric Turbidity Units (NTU)*** – Turbidity units are a measure of the cloudiness of water**.**
- ***Parts per million (ppm) or milligrams per liter (mg/l)*** – One part per million corresponds to one minute of two years or one penny of $10,000.
- ***Parts per billion (ppb) or micrograms per liter*** – One part per billion corresponds to one minute of 2,000 years or one penny of $10,000,000.

All drinking water – including bottled water – may reasonably contain small amounts of these contaminants. In accordance with state and federal law, the City of Newton Water Treatment Plant routinely monitors drinking water for these types of contaminants.

For your information…

The Environmental Protection Agency (EPA) prescribes regulations limiting the amount of certain contaminants in drinking water. To this end, the EPA sets Maximum Contaminant Level Goals (MCLG) and Maximum Contaminant Levels (MCL) to ensure your tap water is safe to drink. The Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. The MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

- ***Bacterial results***: You will be glad to know that in 2012, no bacteria contamination was detected in the system. This was after testing over 180 sites.
- ***Special Concerns:*** Some people may be more vulnerable to contaminants in drinking water than the general population. Some elderly, infants and immune-compromised persons such as persons with cancer under going chemotherapy, persons who have had organ transplants, persons with HIV/AIDS or other immune system disorders may be particularly at risk from infections. These people should seek advice about drinking water from their health care provider.

Cautionary Health Statement - Be Advised: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome.

Elevated Lead levels: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Newton is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you can have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead. Additional information regarding contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline (1-800-426-4791).

Note: Newton's water has significantly less lead than the action level. The last test was in 2012 and it will be repeated in 2015.

Detected Substances in Newton's Water

Table 1: Primary substances regulated at the Treatment Plant. All results of test taken in Jan. 2012 unless noted.

Substance	Newton Result	Highest Level Allowed (MCL)	Ideal Goal MCLG	Major Source
Barium (ppm)	<0.4 mg/l 1/17/2012	2 mg/l	<2 mg/l	Erosion of natural deposits
Fluoride (ppm)	0.83 mg/l 1/17/2012	4 mg/l	<4 mg/l	Water additive which promotes strong teeth; Erosion of natural deposits
Nitrate (ppm)	<1.0 mg/l 1/17/2012	10 mg/l	<10 mg/l	Leaching from septic tanks, sewage; Erosion of natural deposits. Run-off from fertilizer use.
Turbidity NTU (turbidity units)	All below <.3 NTU max/yr.=.06ntu (8/2/2012)	Max allowed <.3 NTU	<.3 NTU (actual %/yr was 100% compliance/yr.)	Soil runoff

* A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Table 2: Substances regulated in the Distribution System

Substance	Result	Range	Highest Level	Ideal Goal	Major Sources
TTHM (ppb) 2012 Tested quarterly	39.8 ppb yearly average	18 to 76.0 ppb	76.0 ppb 3rd quarter 2012	<80.0 ppb yearly average	Chlorination of water
Halloacetic Acids (HAA5) 2012 Tested quarterly	26.0 ppb yearly avg.	16.0 to 38.0 ppb	38.0 ppb 3rd quarter 2012	<60.0 ppb yearly average	Chlorination of water
Total organic carbon; 2012 Tested quarterly	Raw avg. 2.025 ppm for 2012; Filtered 0.95 ppm	1.01 to 4.4 max ppm – raw; Filtered 0.71-1.2 ppm	Raw-4.4 ppm Sept.2012 Filt. 1.20 Sept. 2012	< 2.0 ppm Filtered	Decomposition of organics
Copper (ppm) Tested in June 2012 - 90th percentile	0.132 (ppm) highest detected	Range 0.132-<0.05 ppm	*Action level=1.3 (ppm)	<1.3 (ppm)	Corrosion of copper pipes
Lead (ppm) Tested in June 2012	Highest was <0.003 ppm; 90th percentile of lead was <0.003 ppm	All less than <0.003 ppm	*Action level=0.015 (ppm)	Ideal goal < 0.003 ppm	Corrosion of household plumbing systems, erosion of natural deposits
RADIOACTIVITY as Gross Beta Tested 4/18/2012	Not detected <0.5 pC/L	0 to 4.0 pC/L	Action level if >4.0 pC/L	Ideal goal is non or not detected	Natural decay of radioactive materials
ARSENIC Tested 1/17/2012	LESS THAN <0.005 ppm	NOT DETECTED	NOT DETECTED	NON	FOUND IN SOIL
Sulfate Tested 1/17/2012	<15 ppm	250.00 ppm	Level detected was <15.0 ppm	Ideal goal to be < 250 ppm	FOUND IN SOIL

*An action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements, that a water system must follow.

Table 3: Unregulated Volatile Organic Chemicals (tested 1/17/2012)

Substance	Level Detected	Violation
Chloroform (ppm)	0.040 ppm (avg/2012) quarterly tested	No - (high 0.066 ppm – low 0.004 ppm) **MCL 0.100 ppm**
Bromodichloromethane (ppm)	0.006 ppm (avg/2012) quarterly tested	No - (high 0.009 ppm – low 0.004 ppm) **MCL 0.100 ppm**

The City of Newton water has received the AWOP (Area Wide Optimization Program) award for 11 consecutive years for water far exceeding the requirements for purity, quality, safety, and cost for production. Newton is the only city to qualify every year since start of the N.C. Department of Environmental and Natural Resources program.

SWAP Program: Source Water Assessment Program - The program is used to assess the vulnerability of our drinking water to contamination. The City of Newton has two water sources: the City Lake and the Jacob Fork River. Both sources have a moderate (or average) rating. To view the completed SWAP, visit http://www.deh.enr.state.nc.us/pws/swp, or mail a written request to: Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634. This can also be found at the Newton website, http://www.newtonnc.gov/departments/public_works/water_treatment.php.

This CCR was prepared by Tim Abernethy for the City of Newton, who is the ORC at the Newton Water Treatment Plant. Any questions or comments can be directed to him at (828) 695-4312.

Tim Abernethy will be retiring Feb.1, 2013 after 35 years working and running the Water Plant. It has been his honor to work for so respected and quality oriented Water program.

Thank all citizens and City staff for their help and consideration in all these years.

Tim Abernethy